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ABSTRACT

Mechanisms for reducing the number of block masks required for programming multiple access control lists in an associative memory are disclosed. A combined ordering of masks corresponding to multiple access control lists (ACLs) is typically identified, with the multiple ACLs including n ACLs. An n-dimensional array is generated, wherein each axis of the n-dimensional array corresponds to masks in their requisite order of a different one of the multiple ACLs. The n-dimensional array progressively identifies numbers of different masks required for subset orderings of masks required for subsets of the multiple ACLs. The n-dimensional array is traversed to identify a sequence of masks corresponding to a single ordering of masks including masks required for each of the multiple ACLs.